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| APPLICATION NO.                       | FILING DATE       | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO   |  |
|---------------------------------------|-------------------|----------------------|---------------------|-------------------|--|
| 09/939,447                            | 08/24/2001        | Monty Sharma         | 112024-0085         | 3647              |  |
| 21186 7                               | 6 7590 09/28/2005 |                      | EXAMINER            |                   |  |
| SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH |                   |                      | NGO, NGUY           | NGO, NGUYEN HOANG |  |
| P.O. BOX 293                          |                   |                      | ART UNIT            | PAPER NUMBER      |  |
| MINNEAPOL                             | IS, MN 55402-0938 |                      |                     | - IAM EX NOMBER   |  |
|                                       |                   |                      | 2663                |                   |  |

Please find below and/or attached an Office communication concerning this application or proceeding.



|   |  | Application No.   | Applicant(s)  |              |  |  |  |
|---|--|---|---|--------------|--|--|--|
| Office Action Summary   |  | 09/939,447  | SHARMA ET AL.   |              |  |  |  |
|   |  | Examiner  | Art Unit  |              |  |  |  |
|   |  | Nguyen Ngo  | 2663  |              |  |  |  |
| Period fo   | The MAILING DATE of this communication ap<br>or Reply  | pears on the cover sh   | eet with the correspondence a   | ddress       |  |  |  |
| WHIC<br>- Exter<br>after<br>- If NO<br>- Failu<br>Any r   | ORTENED STATUTORY PERIOD FOR REPLEMEVER IS LONGER, FROM THE MAILING Dosions of time may be available under the provisions of 37 CFR 1.1 SIX (6) MONTHS from the mailing date of this communication. Period for reply is specified above, the maximum statutory period re to reply within the set or extended period for reply will, by statute reply received by the Office later than three months after the mailing patent term adjustment. See 37 CFR 1.704(b). | ATE OF THIS COMI<br>136(a). In no event, however,<br>will apply and will expire SIX<br>e, cause the application to be | MUNICATION. may a reply be timely filed  (6) MONTHS from the mailing date of this come ABANDONED (35 U.S.C. § 133). |              |  |  |  |
| Status  |  |   |   |              |  |  |  |
| 1)⊠   | Responsive to communication(s) filed on <u>01 J</u>  | ulv 2005  |   |              |  |  |  |
| •   |  | s action is non-final.  | •   |              |  |  |  |
| 3)□   | <i>,</i> —   | is application is in condition for allowance except for formal matters, prosecution as to the merits is               |   |              |  |  |  |
| ,_  | closed in accordance with the practice under I   | ·   | · · · · · · · · · · · · · · · · · · ·   |              |  |  |  |
| Dispositi   | on of Claims   |   |   |              |  |  |  |
| 4)⊠   | Claim(s) 1-25 is/are pending in the application  | 1.  | •   |              |  |  |  |
|   | 4a) Of the above claim(s) is/are withdra   |   | on.   |              |  |  |  |
|   | Claim(s) is/are allowed.   | •   |   |              |  |  |  |
| ,   | Claim(s) <u>1-25</u> is/are rejected.  |   |   |              |  |  |  |
| 7)  | Claim(s) is/are objected to.   |   |   |              |  |  |  |
| 8)  | Claim(s) are subject to restriction and/o  | or election requireme   | nt.   |              |  |  |  |
| Applicati   | on Papers  |   |   |              |  |  |  |
| 9)□   | The specification is objected to by the Examine  | er.   |   |              |  |  |  |
| ,—  | The drawing(s) filed on is/are: a) ☐ acc   |   | ed to by the Examiner.  |              |  |  |  |
| Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). |  |   |   |              |  |  |  |
|   | Replacement drawing sheet(s) including the correct   | ction is required if the d  | rawing(s) is objected to. See 37 C  | FR 1.121(d). |  |  |  |
| . 11)   | The oath or declaration is objected to by the E  | xaminer. Note the at  | ached Office Action or form P   | TO-152.      |  |  |  |
| Priority u  | ınder 35 U.S.C. § 119  |   |   |              |  |  |  |
|   | Acknowledgment is made of a claim for foreigr  ☐ All b) ☐ Some * c) ☐ None of:   | n priority under 35 U.  | S.C. § 119(a)-(d) or (f).   |              |  |  |  |
|   | 1. Certified copies of the priority documents have been received.  |   |   |              |  |  |  |
|   | 2. Certified copies of the priority documents have been received in Application No   |   |   |              |  |  |  |
|   | 3. Copies of the certified copies of the price   | •   |   | l Stage      |  |  |  |
|   | application from the International Burea   | • •   | •   |              |  |  |  |
| * 5   | See the attached detailed Office action for a list   | t of the certified copic  | es not received.  |              |  |  |  |
|   |  |   |   |              |  |  |  |
| Attachmen   | t(s)   |   |   |              |  |  |  |
|   | te of References Cited (PTO-892)   | 4) 🔲 Into   | erview Summary (PTO-413)  |              |  |  |  |
| 2) Notice   | e of Draftsperson's Patent Drawing Review (PTO-948)  | Pa  | per No(s)/Mail Date   | FO 152)      |  |  |  |
|   | mation Disclosure Statement(s) (PTO-1449 or PTO/SB/08<br>or No(s)/Mail Date  | ,   | tice of Informal Patent Application (PT<br>er:  | U-102)       |  |  |  |

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#### **DETAILED ACTION**

### Response to Amendment

1. This communication is in response to the amendment of 7/1/2005. All changed made to the Specification, Drawings, and claims have been entered. Accordingly, Claims 1-25 are currently pending in the application.

## Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
  - 1. Determining the scope and contents of the prior art.
  - 2. Ascertaining the differences between the prior art and the claims at issue.
  - 3. Resolving the level of ordinary skill in the pertinent art.
  - 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- 4. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jin et al. (US 6917617) in view of Internetworking with TCP/IP Volume 1, Principle, Protocols, and Architecture by Comer, hereinafter referred to as Jin and Comer.
  Regarding claim 1, Jin discloses the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level to be afforded to the packet as

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it passes through a data communication network (a method for providing Quality of Service (QoS) routing of a network packet, col1 lines41-45). Jin further discloses that three precedence bits of the IP packet header be used to designate the Quality Of Service (QoS) level to be given to packets (inserting a QoS code into an IP address of the network packet, col3 lines 39-41). Jin however fails to disclose the specific limitation of having the QoS code become part of the IP address and is defined in unused portions of the IP address. Jin however discloses that the particular bits used are not particularly critical (col3 lines35-46), and that other bits or fields could also be designated to carry the QoS level information, thus providing the motivation to efficiently use any unused or non critical bits of packet header, more specifically any unused bits in the packet address.

Comer however discloses of an IP packet class (class E) with an unused portion reserved for future use (unused portions of the IP address, figure 4.1 of page 60).

It would thus be obvious to a person skilled in the art to incorporate the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level disclosed by Jin with the unused reserved portion of bits in an IP address as disclosed by Comer, more specifically, to insert the QoS code into an unused but usable reserved portion of an IP address (QoS becomes part of the IP address and is defined in unused portions of the IP address) to create efficiently in defining QoS levels of any IP packet by using the unused bits in it's header.

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Regarding claim 2, Jin and Comer disclose all the limitations of claims 2. More specifically Jin discloses that the SSG stores the QoS level associated with the user and acts as an edge router for the user in all subsequent outbound communications forwarded to the Internet. The SSG simply replaces a bit pattern corresponding to the user's QoS level (col4 lines 35-45). That the QoS level mapped into bits of the packet is used by devices (intermediate nodes) such as routers, gateways, and switches within a data communication network by checking the QoS level (checking unused bits of the IP address to read the QoS code upon receiving the network packet at an intermediate node). Those with a "higher" QoS level will do better in getting their communications through in congested conditions than those with a "lower" QoS level (forwarding the received network packet from the intermediate node with the QoS indicated by the QoS code, col2 lines 4-17).

Regarding claim 3, Jin and Comer disclose all the limitations of claims 3. More specifically Jin discloses that the SSG stores the QoS level associated with the user and acts as an edge router (an intermediate node) for the user in all subsequent outbound communications forwarded to the Internet (storing the QoS code in the intermediate node, col4 lines 35-45).

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**Regarding claim 4**, Jin and Comer disclose all the limitations of claims 4. More specifically Jin discloses that the Ethernet type includes Ipv4 and Ipv6 (the IP address comprises an IP version 6 address, col1 lines29-30).

Regarding claim 5, Jin discloses the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level to be afforded to the packet as it passes through a data communication network (a method for providing Quality of Service (QoS) routing of a network packet, col1 lines41-45). Jin further discloses;

that the SSG stores the QoS level associated with the user and acts as an edge router for the user in all subsequent outbound communications forwarded to the Internet. The SSG simply replaces a bit pattern corresponding to the user's QoS level (col4 lines 35-45). That the QoS level mapped into bits of the packet is used by devices (intermediate nodes) such as routers, gateways, and switches within a data communication network by checking the QoS level (checking bits of the IP address associated with the network packet to read a QoS code therein upon receiving the network packet at an intermediate node).

that those with a "higher" QoS level will do better in getting their communications through in congested conditions than those with a "lower" QoS level (forwarding the received network packet from the intermediate node with the QoS indicated by the QoS code, col2 lines 4-17).

Jin however fails to disclose that the QoS code is part of the IP address and included within the unused bits of the IP address. Jin however discloses that three precedence bits of the IP packet header be used to designate the Quality Of Service (QoS) level to be given to packets (col3 lines 39-41) and that the particular bits used are not particularly critical, and that other bits or fields could also be designated to carry the QoS level information (col3 lines35-46), thus providing the motivation to efficiently use any unused or non critical bits of a packet header, more specifically any unused bits in the packet address.

Comer however discloses of an IP packet class (class E) with an unused portion reserved for future use (unused portions of the IP address, figure 4.1 of page 60).

It would thus be obvious to a person skilled in the art to incorporate the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level disclosed by Jin with the unused reserved portion of bits in an IP address as disclosed by Comer, more specifically, to insert the QoS code into an unused but usable reserved portion of an IP address (QoS becomes part of the IP address and is defined in unused portions of the IP address) to create efficiently in defining QoS levels of any IP packet by using the unused bits in it's header.

Regarding claim 6, Jin and Comer disclose all the limitations of claims 6. More specifically Jin discloses that the SSG stores the QoS level associated with the user

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and acts as an edge router (an intermediate node) for the user in all subsequent outbound communications forwarded to the Internet (storing the QoS code in the intermediate node, col4 lines 35-45).

**Regarding claim 7**, Jin and Comer disclose all the limitations of claims 7. More specifically Jin discloses that the Ethernet type includes Ipv4 and Ipv6 (the IP address comprises an IP version 6 address, col1 lines29-30).

Regarding claim 8, Jin discloses the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level to be afforded to the packet as it passes through a data communication network (a method for providing Quality of Service (QoS) routing of a network packet, col1 lines41-45). Jin further discloses;

that QoS policy gives priority to certain types of traffic, thus assuring that critical communications are able to pass through the data communications network and provide guaranteed service levels (col2lins 1-4) and that bits (plurality of QoS codes consisting of different bits) in the IP header are used to designate the type of QoS level (associating one of a plurality of QoS codes with one of a plurality of QoS levels. ol2 lines 41-45).

that the SSG stores the QoS level associated with the user and acts as an edge router for the user in all subsequent outbound communications forwarded to the Internet. The SSG simply replaces a bit pattern corresponding to the user's QoS level (col4 lines 35-45). That the QoS level mapped into bits of the packet is used by devices

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(intermediate nodes) such as routers, gateways, and switches within a data communication network by checking the QoS level (checking bits of the IP address to read the QoS code therein upon receiving the network packet at an intermediate node on a network).

that those with a "higher" QoS level will do better in getting their communications through in congested conditions than those with a "lower" QoS level (forwarding the received network packet from the intermediate node with the QoS indicated by the QoS code, col2 lines 4-17).

Jin however fails to disclose of inserting one of the QoS codes into unused bits of an Ipv6 address of the network packet, wherein the QoS codes are part of the Ipv6 address and included in unused bits of the Ipv6 address. Jin however discloses that three precedence bits of the IP packet header be used to designate the Quality Of Service (QoS) level to be given to packets (col3 lines 39-41) and that the particular bits used are not particularly critical, and that other bits or fields could also be designated to carry the QoS level information (col3 lines35-46), thus providing the motivation to efficiently use any unused or non critical bits of a packet header, more specifically any unused bits in the packet address. Jin further discloses that the Ethernet type includes Ipv4 and Ipv6 (of an Ipv6 address of the network packet, col1 lines29-30).

Comer however discloses of an IP packet class (class E) with an unused portion reserved for future use (unused portions of the IP address, figure 4.1 of page 60).

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It would thus be obvious to a person skilled in the art to incorporate the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level disclosed by Jin with the unused reserved portion of bits in an IP address as disclosed by Comer, more specifically, to insert the QoS code into an unused but usable reserved portion of an Ipv6 address (QoS are part of the Ipv6 address and included in unused bits of the Ipv6 address) to create efficiently in defining QoS levels of any IP packet by using the unused bits in it's header.

Regarding claim 9, Jin and Comer disclose all the limitations of claims 6. More specifically Jin discloses that the SSG stores the QoS level associated with the user and acts as an edge router (an intermediate node) for the user in all subsequent outbound communications forwarded to the Internet (storing the QoS code in the intermediate node, col4 lines 35-45).

Regarding claim 10, Jin discloses of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level to be afforded to the packet as it passes through a data communication network (Apparatus for providing QoS routing of a network packet, col1 lines41-45). Jin further discloses that three precedence bits of the IP packet header be used to designate the Quality Of Service (QoS) level to be given to packets (col3 lines 39-41) and that the SSG simply replaces bits in the packet header with a bit pattern corresponding to the user's QoS level (means for inserting a QoS code

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into an IP header of the network packet, col4 lines 41-44). Jin however fails to disclose the specific limitation of having the QoS code become part of the IP address and is defined in unused portions of the IP address. Jin however discloses that the particular bits used are not particularly critical, and that other bits or fields could also be designated to carry the QoS level information (col3 lines35-46), thus providing the motivation to efficiently use any unused or non critical bits of packet header, more specifically any unused bits in the packet address.

Comer however discloses of an IP packet class (class E) with an unused portion reserved for future use (unused portions of the IP address, figure 4.1 of page 60).

It would thus be obvious to a person skilled in the art to incorporate the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level disclosed by Jin with the unused reserved portion of bits in an IP address as disclosed by Comer, more specifically, to insert the QoS code into an unused but usable reserved portion of an IP address (QoS becomes part of the IP address and is defined in unused portions of the IP address) to create efficiently in defining QoS levels of any IP packet by using the unused bits in it's header.

Regarding claim 11, Jin and Comer disclose all the limitations of claims 11. More specifically Jin discloses that the SSG stores the QoS level associated with the user and acts as an edge router for the user in all subsequent outbound communications

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forwarded to the Internet. The SSG simply replaces a bit pattern corresponding to the user's QoS level (col4 lines 35-45). That the QoS level mapped into bits of the packet is used (checked) by devices (intermediate nodes) such as routers, gateways, and switches within a data communication network by checking the QoS level (means for checking unused bits of the IP address to read the QoS code upon receiving the network packet at an intermediate node). Those with a "higher" QoS level will do better in getting their communications through in congested conditions than those with a "lower" QoS level (means for forwarding the received network packet from the intermediate node with the QoS indicated by the QoS code, col2 lines 4-17).

Regarding claim 12, Jin and Comer disclose all the limitations of claims 6. More specifically Jin discloses that the SSG stores the QoS level associated with the user and acts as an edge router (an intermediate node) for the user in all subsequent outbound communications forwarded to the Internet (storing the QoS code in the intermediate node, col4 lines 35-45).

Regarding claim 13, Jin discloses the of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level to be afforded to the packet as it passes through a data communication network (apparatus for providing Quality of Service (QoS) routing of a network packet, col1 lines41-45). Jin further discloses;

that the SSG stores the QoS level associated with the user and acts as an edge router for the user in all subsequent outbound communications forwarded to the

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Internet. The SSG simply replaces a bit pattern corresponding to the user's QoS level (col4 lines 35-45). That the QoS level mapped into bits of the packet is used by devices (intermediate nodes) such as routers, gateways, and switches within a data communication network by checking the QoS level (means for checking bits of the IP address associated with the network packet to read a QoS code therein upon receiving the network packet at an intermediate node).

that those with a "higher" QoS level will do better in getting their communications through in congested conditions than those with a "lower" QoS level (means for forwarding the received network packet from the intermediate node with the QoS indicated by the QoS code, col2 lines 4-17).

Jin however fails to disclose that the QoS code is part of the IP address and included within the unused bits of the IP address. Jin however discloses that three precedence bits of the IP packet header be used to designate the Quality Of Service (QoS) level to be given to packets (col3 lines 39-41) and that the particular bits used are not particularly critical, and that other bits or fields could also be designated to carry the QoS level information (col3 lines35-46), thus providing the motivation to efficiently use any unused or non critical bits of a packet header, more specifically any unused bits in the packet address.

Comer however discloses of an IP packet class (class E) with an unused portion reserved for future use (unused portions of the IP address, figure 4.1 of page 60).

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It would thus be obvious to a person skilled in the art to incorporate the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level disclosed by Jin with the unused reserved portion of bits in an IP address as disclosed by Comer, more specifically, to insert the QoS code into an unused but usable reserved portion of an IP address (QoS becomes part of the IP address and is defined in unused portions of the IP address) to create efficiently in defining QoS levels of any IP packet by using the unused bits in it's header.

Regarding claim 14, Jin and Comer disclose all the limitations of claims 14. More specifically Jin discloses that the SSG stores the QoS level associated with the user and acts as an edge router (an intermediate node) for the user in all subsequent outbound communications forwarded to the Internet (storing the QoS code in the intermediate node, col4 lines 35-45).

Regarding claim 15, Jin and Comer disclose all the limitations of claims 15. More specifically Jin discloses that the Ethernet type includes Ipv4 and Ipv6 (the IP address comprises an IP version 6 address, col1 lines29-30).

Regarding claim 16, Jin and Comer disclose all the limitations of claims 16 as discussed with claim 10. It is noted that claim 16 is simply the computer readable medium of the apparatus of claim 10. Jin further discloses that the components and

readable medium (col3 lines 20-24).

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processes are implemented using C++ programs, obvious to be stored on a computer

Regarding claim 17, Jin and Comer disclose all the limitations of claims 17 as discussed with claim 8. Jin discloses that the components and processes are implemented using C++ programs, obvious to be stored on a computer readable medium (col3 lines 20-24) and SSG replaces the bits in a packet header with a bit pattern corresponding to the user's QoS level (associating one of a plurality of QoS codes with on of a plurality of QoS levels, col4 lines 40-43).

Regarding claim 18, Jin and Comer disclose all the limitations of claims 18 as discussed with claim 11. It is noted that claim 18 is simply the computer readable medium of the apparatus of claim 11. Jin further discloses that the components and processes are implemented using C++ programs, obvious to be stored on a computer readable medium (col3 lines 20-24).

Regarding claim 19, Jin and Comer disclose all the limitations of claims 19 as discussed with claim 12. It is noted that claim 19 is simply the computer readable medium of the apparatus of claim 12. Jin further discloses that the components and processes are implemented using C++ programs, obvious to be stored on a computer readable medium (col3 lines 20-24).

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**Regarding claim 20**, Jin and Comer disclose all the limitations of claims 20. More specifically Jin discloses that the Ethernet type includes Ipv4 and Ipv6 (the IP address comprises an IP version 6 address, col1 lines29-30).

Regarding claim 21, Jin and Comer disclose all the limitations of claims 21 as discussed with claim 2. It is noted that claim 21 is simply the computer readable medium of the method of claim 5. Jin further discloses that the components and processes are implemented using C++ programs, obvious to be stored on a computer readable medium (col3 lines 20-24).

Regarding claim 22, Jin and Comer disclose all the limitations of claims 22 as discussed with claim 8. Jin discloses that the components and processes are implemented using C++ programs, obvious to be stored on a computer readable medium (col3 lines 20-24) and SSG replaces the bits in a packet header with a bit pattern corresponding to the user's QoS level (associating one of a plurality of QoS codes with on of a plurality of QoS levels, col4 lines 40-43).

5. Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jin et al. (US 6917617) in view of Internetworking with TCP/IP Volume 1, Principle, Protocols, and Architecture by Comer, further in view of Ohba (US 6101193), hereinafter referred to as Jin, Comer, and Ohba.

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Regarding claim 23, Jin discloses the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level to be afforded to the packet as it passes through a data communication network (a method for providing Quality of Service (QoS) routing of a network packet, col1 lines41-45). Jin further discloses;

that the SSG stores the QoS level associated with the user and acts as an edge router for the user in all subsequent outbound communications forwarded to the Internet. The SSG simply replaces a bit pattern corresponding to the user's QoS level (col4 lines 35-45). That the QoS level mapped into bits of the packet is used by devices (intermediate nodes) such as routers, gateways, and switches within a data communication network by checking the QoS level (checking bits of the IP address associated with the network packet to read a QoS code therein upon receiving the network packet at an intermediate node).

that those with a "higher" QoS level will do better in getting their communications through in congested conditions than those with a "lower" QoS level (forwarding the received network indicated by the QoS code, col2 lines 4-17).

Jin however fails to disclose that the QoS code is part of the IP address and included within the unused bits of the IP address. Jin however discloses that three precedence bits of the IP packet header be used to designate the Quality Of Service (QoS) level to be given to packets (col3 lines 39-41) and that the particular bits used are not particularly critical, and that other bits or fields could also be designated to carry the QoS level information (col3 lines 35-46), thus providing the motivation to efficiently use

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any unused or non critical bits of a packet header, more specifically any unused bits in the packet address.

Comer however discloses of an IP packet class (class E) with an unused portion reserved for future use (unused portions of the IP address, figure 4.1 of page 60).

It would thus be obvious to a person skilled in the art to incorporate the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level disclosed by Jin with the unused reserved portion of bits in an IP address as disclosed by Comer, more specifically, to insert the QoS code into an unused but usable reserved portion of an IP address (QoS becomes part of the IP address and is defined in unused portions of the IP address) to create efficiently in defining QoS levels of any IP packet by using the unused bits in it's header.

The combination of Jin and Comer further fail to disclose the specific limitation of storing the network packets in queues based upon the QoS indicated by the QoS code.

Ohba however disclose of a packet scheduling scheme in which IP packets are held in a plurality of packet queues such that when a packet arrives, the scheduling unit selects one class according to the service class of the input packet and then entered into one of a plurality of packet queues (storing the network packets in queues based upon the QoS indicated by the QoS code, col12 lines 31-37 and col12 lines 50-52). The

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scheduling unit sequentially selects an output packet queue from the packet queues, according to a prescribed criterion (reading said network packets from said queues in a preferential manner, col13 lines 65-col14 lines1).

It would thus be obvious to a person skilled in the art to incorporate the method of using certain bits in the IP header of an IP packet to designate the Quality of Service (QoS) level with the unused reserved portion of bits in an IP address, more specifically, to insert the QoS code into an unused but usable reserved portion of an IP address as disclosed by the combination of Jin and Comer with the packet scheduling scheme comprising a plurality of weighted queues as disclosed by Ohba to efficiently store packets in a node depending on a criterion (QoS level) for transmission through a network.

Regarding claim 24, the combination of Jin, Comer, and Ohba discloses all the limitations of claim 24, more specifically Jin discloses;

that the SSG replaces the bits in a packet header with a bit pattern corresponding to the user's QoS level (associating one of a plurality of QoS codes with on of a plurality of QoS levels, col4 lines 40-43).

that the SSG stores the QoS level associated with the user and acts as an edge router (an intermediate node) for the user in all subsequent outbound communications forwarded to the Internet (storing the QoS code in the intermediate node, col4 lines 35-45).

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transmitting packets belonging to at least one packet flow (QoS level) to the data communication network and that all of the packets belonging to said packet flow with a QoS bit pattern (determining the QoS level that a network packet should be retransmitted with by using the QoS code read from the network packet).

Regarding claim 25, the combination of Jin, Comer, and Ohba discloses all the limitations of claim 25, more specifically Jin discloses that the Ethernet type includes lpv4 and lpv6 (the IP address comprises an IP version 6 address, col1 lines29-30).

#### Conclusion

- 6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - a) Monrad et al. (US 6438122), Method Related To GPRS System Providing Packet Switched Connections.
  - b) Puuskari (US 6728208), Method For Controlling A Quality Of Service In A Mobile Communication System.
  - c) Chen et al. (US 6654610), Two-Way Packet Data Protocol Methods And Apparatus For A Mobile Telecommunication System.

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d) Li et al. (US 2002/0012356), Packet Switch With One-Stop Buffer In Memory With Massive Parallel Access.

- e) Zhu et al. (US H2051), System And Method For Providing Multiple Quality Of Service Classes.
- 7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen Ngo whose telephone number is (571) 272-8398. The examiner can normally be reached on Monday-Friday 7am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

N.W.

Nguyen Ngo United States Patent & Trademark Office Patent Examiner AU 2663 (571) 272-8398

PRIMARY EXAMINER